Amendments to the Claims: This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Cancelled).

2. (Cancelled).

3. (Cancelled).

4. (Cancelled).

5. (Cancelled).

6. (Cancelled).

7. (Cancelled).

8. (Cancelled).

9. (Cancelled).

10. (Cancelled).

11. (Cancelled).

12. (Cancelled).

13. (Cancelled).

14. (Cancelled).

15. (Cancelled).

16. (Cancelled).

17. (Currently Amended) A wireless data transmission device of a communication system that carries out data communication on a burst basis by digital modulation, the transmission device comprising:

a data stream dividing means for dividing transmission data at a given ratio;

a first quadrature vector mapping means for providing a first divided data with a signal space diagram according to a first modulation method;

a second quadrature vector mapping means for providing a second divided data with a signal space diagram according to a second modulation method having a higher modulation level than the first modulation method based on a communication control information, the information being for determining a modulation level on respective data symbols and known to a receiver; and

a multiplexing means for placing a symbol modulated by the first modulation method and a symbol modulated by the second modulation method at given places respectively, then multiplexing a transmission burst, the symbol modulated by the second modulation method being multiplexed in a position contiguous to the symbol modulated by the first modulation method;

wherein the given ratio is defined by a number of data symbols modulated by the first modulation method being more than a number of data symbols modulated by the second modulation method;~~The wireless data transmission device as defined in claim 3 further comprising:~~

a transmission packet generating means for generating and outputting transmission data on a packet basis based on a process in a higher layer, and also generating a transmission packet which outputs information about a size of the packet; and

a transmission control means for detecting a quantity and an insertion place of the data symbol having the higher modulation level based on the information about a size of the transmission packet and information about a size of a burst in a physical layer, and for controlling a data separation by the data stream dividing means and a content of the burst generated by the multiplexing means based on information about a determined quantity and a determined insertion place about the symbol.

18. (Previously Presented) The wireless data transmission device as defined in claim 17, wherein the transmission control means controls the multiplexing means such that the information about the packet size is inserted in the transmission burst.

19. (Currently Amended) A method of wireless transmitting data on a burst signal basis, the method comprising the steps of:

inserting at least one data symbol of a second modulation method based on a communication control information into a data symbol stream of a first modulation method, the at least one data symbol of the second modulation method being inserted into the data symbol stream contiguous to a data symbol of the first modulation method, wherein the second modulation method has more modulation levels than the first modulation method, and wherein a number of data symbols of the first modulation method in a transmission burst is more than a number of data symbols of the second modulation method;

transmitting the transmission burst including the data symbol of the first modulation method and the data symbol of the second modulation method;~~The method of wireless transmitting data as defined in claim 1 further comprising the steps of:~~

generating and outputting transmission data on a packet basis based on a process in a higher layer, and also generating a transmission packet which outputs information about a size of the packet; and

controlling transmission for detecting a quantity and an insertion place of the data symbol having the higher modulation level based on the information about a size of the transmission packet and information about a size of a burst in a physical layer, and controlling a data separation in a data stream dividing step for dividing a data stream based on information about a determined quantity and a determined insertion place about the symbol, and also controlling a content of the burst generated in a multiplexing step which generates a transmission burst.

20. (Previously Presented) The method of wireless transmitting data as defined in claim 19, wherein the transmission control step controls the multiplexing step such that the information about the packet size is inserted in the transmission burst.

21. (Cancelled).

22. (Cancelled).

23. (Cancelled).

24. (Cancelled).

25. (Cancelled).

26. (Cancelled).

27. (Cancelled).

28. (Cancelled).